

## 2010 Whale Survey in American Samoa

David Mattila, Research Coordinator of NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary, and Dr. Jooke Robbins, Director of Humpback Whale Research at the Provincetown Center for Coastal Studies, joined by Alden Tagarino, Department of Marine and Wildlife Resources (DMWR), began their annual survey of marine mammals around Tutuila in October. Mattila and Robbins have worked in partnership with the Fagatele Bay National Marine Sanctuary (FBNMS) and DMWR since 2003, spending several weeks each September through October studying marine mammals.



The overarching goal of the study is to understand the importance of American Samoa as a breeding ground for South Pacific humpback whales. Using photo-identification, biopsy (skin) sampling and song recordings, Mattila and Robbins have helped to define and assess the local population, to clarify its relationship to other parts of Oceania, and to identify its Antarctic migratory destinations.

The bottom of a whale's tail is like a fingerprint, and is unique to that whale. "This year, we've seen a whale that we saw in American Samoa six years ago, proving that they are repeatedly returning to this area", said Mattila.

Given the prevailing trade winds and large Southern Ocean winter swells, the working conditions rarely allow "systematic" searching. However, using FBNMS' 10m research vessel, the *RV Manumā*, the team has found several humpback mothers with their newborn calves very close to shore, sometimes in very small coves and bays. "We've even seen mothers lead their young calves into the Fagatele Bay National Marine Sanctuary" Mattila reported.

In order to understand the humpback whales of American Samoa in a much broader perspective, the team collaborates with researchers from Australia, other Island countries of Oceania, and even South America and the Antarctic. These collaborations have included sharing of tail fluke identification photos to identify individual whale movement. The team has also provided DNA (from small skin samples) and song recordings to scientists who are looking at the bigger picture.

As a result, we now know that the humpback whales seen off Tutuila and Samoa also visit Tonga, the Cook Islands and French Polynesia, a population of about 3,000 animals. Through comparing tail fluke photo-identifications with photos taken in the Antarctic, the project has found that some Samoan humpbacks spend their summers around the Antarctic Peninsula. There they feed on krill and mix with "South American" humpbacks. The distance between this feeding area and American Samoa, is the longest known migration of any mammal.

This season, the team will continue to gather more photo-identifications, DNA samples, and song recordings. The work will partially support a major Australian research initiative studying the whales when they are in the Antarctic. The team will also continue to seek other information that will be used to better understand the health issues and human impacts affecting this endangered population.